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GRAPHICAL SYMBOLS USED IN ELECTROTECHNOLOGY

PART XVII FERRITE CORES AND MAGNETIC STORAGE MATRICES

(First Reprint MARCH 1977)

UDC 003.62:621.318.134.042.1:621.377.622.13

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Rs 5·00 Gr. 2

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PART XVII FERRITE CORES AND MAGNETIC STORAGE MATRICES

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Indian Standard

GRAPHICAL SYMBOLS USED IN ELECTROTECHNOLOGY

PART XVII FERRITE CORES AND MAGNETIC STORAGE MATRICES

0. FOREWORD

0.1 This Indian Standard (Part XVII) was adopted by the Indian Standards Institution on 21 March 1975, after the draft finalized by the Electrotechnical Standards Sectional Committee in consultation with the Magnetic Components and Ferrite Materials Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 It is common in electrical and electronic engineering practice to employ graphical symbols to denote the various means and devices used when making diagrams of connections. The connecting devices and the points where they make contact with the apparatus may be indicated in the diagram. With the object of standardizing the symbols to meet the various needs of the electrical and electronic industry based, as far as possible, on symbols internationally agreed, a series of standards is being formulated.

0.3 In selecting and devising these symbols the object has been to ensure, as far as possible, that they are self-explanatory, easy to draw and in general use. It may be necessary in detailed diagrams to indicate the physical structure of the apparatus, the actual position of the terminals and so forth, but, where possible, the principle of the standard symbols should be followed.

0.4 It may be possible that for the items specified in this standard other symbols are used in this country. However, in the interest of the unification in the use of these symbols, only one symbol based on the internationally agreed symbols for each of the devices has been specified.

0.5 This standard is one of a series of Indian Standards for graphical symbols used in electrotechnology. A list of standards so far published in this series is given on fourth cover page.

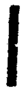
0.6 This standard is based on IEC Publication 117-16 'Recommended graphical symbols, Part 16 : Symbols for ferrite cores and magnetic storage matrices', issued by International Electrotechnical Commission.

1. SCOPE

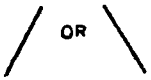
1.1 This standard (Part XVII) covers graphical symbols for ferrite cores and magnetic storage matrices.

2. SYMBOL ELEMENTS

2.1 Ferrite Core

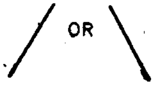


2.2 Flux/Current Direction Indicator



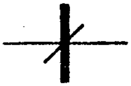
Note — This symbol is not applicable for topographical representation.

2.2.1 *Qualifying Symbol* — To indicate that a horizontal line drawn at a right angle through a core symbol represents a core winding.



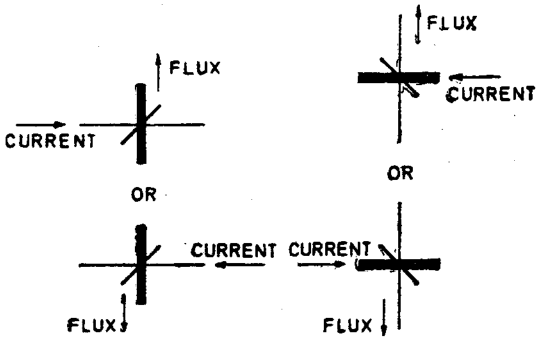
Note — This symbol also gives the relative directions of current and flux.

2.3 Ferrite Core with One Winding

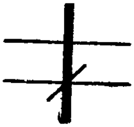


Note 1 — The oblique line may be regarded as a reflector that relates the directions of current and flux.

Note 2 — For drawing convenience, lines representing conductors are often shown crossing core symbols even though there is no winding on the magnetic circuit. Except in topographical representation the use of symbol given in **2.2** is mandatory in all cases where a line through the core symbol represents a winding.



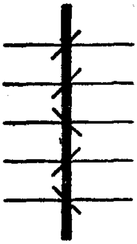
2.4 Example of a conductor crossing the symbol of a ferrite core with one winding.



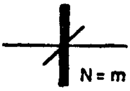
3. EXAMPLES OF THE USE OF SYMBOL ELEMENTS

3.1 Ferrite Core with Five Windings

NOTE — Information on the direction of current, its relative amplitude and the logic conditions imposed by the state of the magnetic remanence may be added.



3.2 Ferrite Core with One Winding of *m* Turns

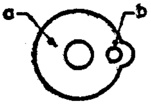


4. SYMBOLS FOR MULTI-APERTURE DEVICES

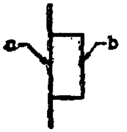
4.0 Transfluxor Cores — Symbols given in **4.1** to **5.1** are derived from simplified representations of the mechanical design of transfluxors.

4.1 Transfluxor Core with One Main Magnetic Circuit (a) and One By-Pass Magnetic Circuit (b)

NOTE — In the simplified symbol the long vertical line represents the main magnetic circuit (a) and the closed loop represents the by-pass magnetic circuit (b).

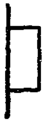


OR

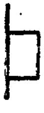


Simplified Symbol

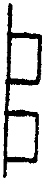
4.2 Transfluxor Core with One Main Magnetic Circuit and One By-Pass Magnetic Circuit



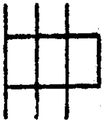
OR



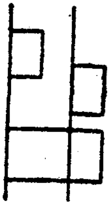
4.3 Transfluxor Core with One Main Magnetic Circuit and Two By-Pass Magnetic Circuits



4.4 Transfluxor Core with Three Main Magnetic Circuits and One Common By-Pass Magnetic Circuit

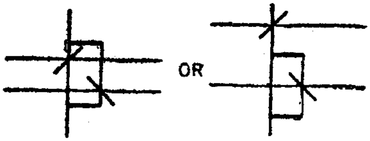


4.5 Transfluxor Core with Two Main Magnetic Circuits Having Individual By-Pass Circuits and One By-Pass Circuit Common to Both



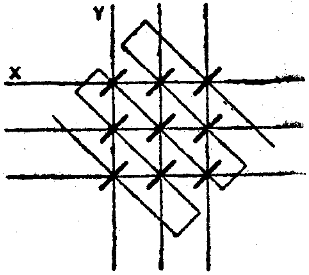
5. EXAMPLE OF A TRANSFLUXOR

5.1 Transfluxor with One Main Magnetic Circuit, One By-Pass Magnetic Circuit and Two Individual Windings

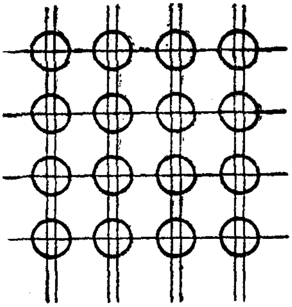


6. EXAMPLES OF MAGNETIC STORAGE MATRICES, TOPOGRAPHICAL REPRESENTATION

6.1 Ferrite Core Matrix Showing X and Y Windings and a Read-Out Winding — Ferrite core symbol (*see* **2.1**) is shown at 45° to the horizontal.



6.2 Matrix Arrangement Comprising Thin-Sheet Magnetic Stores, Located Between Thin-Sheet Wiring Layers



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